5547. Adulteration and misbranding of pepper. U. S. * * * v. 6 Barrels of Ground Pepper. Tried to the court. Finding for the Government. Decree of condemnation and forfeiture. Product ordered sold. (F. & D. No. 7462. I. S. No. 4805–l. S. No. E–623.)

On May 24, 1916, the United States attorney for the Southern District of New York, acting upon a report by the Secretary of Agriculture, filed in the District Court of the United States for said district a libel for the seizure and condemnation of 6 barrels of ground pepper, remaining unsold in the original unbroken packages at New York, N. Y., alleging that the article had been shipped on or about April 18, 1916, by McCormick & Co., Baltimore, Md., and transported from the State of Maryland into the State of New York, and charging adulteration and misbranding in violation of the Food and Drugs Act. The article was labeled in part: "Pure Ground Black Pepper. McCormick & Co. * * * Baltimore, Md."

Adulteration of the article was alleged, in substance, in the libel for the reason that added pepper shells had been mixed and packed therewith so as to reduce and lower and injuriously affect its quality and strength, and had been substituted wholly or in part for the article.

Misbranding was alleged in the libel (as amended during the trial) for the reason that the statement, to wit, "Pure Ground Black Pepper," was false and misleading in that said article was an imitation of, and was offered for sale under the distinctive name of, another article, to wit, black pepper, when it was not; and for the further reason that it was labeled and branded so as to deceive and mislead a purchaser in that it purported to be another article.

On September 16, 1916, the said McCormick & Co., claimant, filed its answer denying the allegations of the libel. On December 20, 21, 22, 27, and 29, 1916, the case came on to be heard before the court, trial by jury having been waived by stipulation, and after the introduction of evidence and arguments by counsel, the case was taken under advisement by the court. On February 10, 1917, final arguments were made by respective counsel and briefs filed. On February 27, 1917, a finding was made sustaining the contentions of the Government, as will more fully appear from the following decision by the court (Manton, *D. J.*):

On the 17th of April, 1916, 10 barrels of pepper were sold by the claimant to Samuel Wildes Sons Co. under an order calling for "10 barrels pure ground black pepper." The shipment was so marked and it was conceded by the claimant. indeed, so claimed, that the pepper sold and shipped was pure ground black pepper. On the 24th of February, 1916, 6 barrels were seized by the marshal and on the 27th of May, 1916, they were sampled by the libellant and thereafter experimentation with the samples was made as hereafter stated. The samples were taken by the Government inspector at the house of Wildes, a hole was bored about a quarter of an inch in bore through one of the staves of each of the barrels by a brace and bit. The samples so taken were from various parts of each barrel. Care was taken in the preservation of these samples and they were given to the Government chemist, Seeker, for analysis in his laboratory. He, together with an assistant, Cummings, conducted the experimentation with the results herein stated. The claimant contends that this pepper was Lampong pepper, a high grade of black pepper grown in the southeastern end of the island of Sumatra and commonly used in this country. The claimant, McCormick & Co., are large importers of pepper, perhaps the largest in this country, and have been engaged in business in Baltimore for a long period of years.

Pure ground black pepper is defined in Circular 19, issued by the Department of Agriculture on June 26, 1916, as follows:

"PEPPER.

"Black pepper is the dried immature berry of *Piper nigrum* L. and contains not less than six (6) per cent of nonvolatile ether extract, not less than

twenty-five (25) per cent of starch, not more than seven (7) per cent of total ash, not more than two (2) per cent of ash insoluble in hydrochloric acid, and not more than fifteen (15) per cent of crude fiber. One hundred parts of the nonvolatile ether extract contain not less than three and one-quarter (3.25) parts of nitrogen. Ground black pepper is the product made by grinding the entire berry and contains the several parts of the berry in their normal proportions."

The Department of Agriculture officially advised McCormick & Co. on August 1, 1916, that—

"Ground peppers will be regarded as adulterated and misbranded, if, upon examination, they are found not to comply with the standards in Circular 19, Office of the Secretary of Agriculture."

The Government has taken the position generally, in the enforcement of the Federal Food and Drugs Act of June 30, 1906, that a ground black pepper conforming to the standard above mentioned, defined in Circular 19, is not a violation of the act. A product not made solely by grinding the entire black pepper berries and containing the several parts of the berry in their normal proportions, but containing also some added foreign substance, is not a pure ground black pepper, and if shipped in interstate commerce is in violation of the Federal Food and Drugs Act.

The Government's claim is that McCormick & Co., in order to gain an advantage in competition, adulterated its black pepper with foreign pepper shells and it contends that this adulteration was carried on only to such an extent that an analysis made of the product would find that such adulterated and misbranded pepper would come within the limits of Circular 19.

In Lampong pepper the ash and fiber are comparatively high, due to excess sand, twigs, and trash. Hence, to make room in Lampong pepper for the addition of a larger quantity of shells, all of this excess trash, twigs, and mineral matter is taken out. If, from 100 pounds of pepper, there is removed 3 per cent or 3 pounds of sand or gravel, leaving 97 pounds of pepper, there would be practically a negligible quantity of ash. By taking shells containing 8.21 per cent of ash, 25 pounds can be added to the 97 pounds of clean pepper, and the result, 122 pounds mixture, would give 95 pounds less ash than the original 100 pounds contained. This 25 pounds is, of course, in addition to the shells that might safely have been mixed in the pepper before the excess mineral matter was removed. Control of crude fiber could be illustrated in exactly the same way and with substantially the same result. It is claimed by the Government that by some such method of scientific control, this pepper was standardized and kept as near uniform as possible. In other words, to each grind as much shell was added as could be put in with safety. After the grind, customarily analyses were made, as Shoul testified, to ascertain whether the pepper, as sold, came up to the requirements of Circular 19. Both the Government and the claimant concede that if foreign pepper shells were added to the natural pepper berry, such a mixture would be an adulteration and a violation of the act.

The sole inquiry, therefore, is one of fact, whether under the proof in this case, this pepper sold to Wildes and subsequently sampled contained pepper shells as charged in the libel. This question of fact the court is called upon to decide.

It may readily be conceded that with the possibility of mixing pepper shells and the pepper berry, the mix can be so arranged that it will contain the essential properties required under Circular 19. Therefore, a chemical analysis alone is not sufficient as a method of detection. Apparently the Government recognized this, for it conceived a method of detection and carried out its plan. It experimented, prior to endeavoring to carry out its plan of detection, and found that quinine alkaloid was no part of the properties of pepper or pepper shells. Such experiments were had, that it was scientifically determined by the experimenting chemist, that if quinine alkaloid were mixed with pepper and pepper shells, it could be subsequently detected in the laboratory on analysis.

Two well-known tests of obtaining such result are known to science. One is the so-called modified Thalleioquin test and the other the Hereapathite and Fluorescence tests. With this knowledge, after learning that McCormick & Co. were the consignee of 199 bags of pepper shells then at a dock in Baltimore, the Government inspectors, on May 27, 1916, proceeded to the dock and there, with the use of a syringe, mixed quinine alkaloid with each of the bags of pepper shells, putting an equal quantity, 1 ounce, of quinine alkaloid in each bag.

After the samples were obtained from the barrels seized at Wildes house, the Government analysts, Seeker and Cummings, examined 19 separate samples from 7 different barrels of the shipment of pepper in issue, to determine the presence of quinine alkaloid. The modified Thalleioquin test was employed. Of the 19 samples so tested, 13 returned a negative and 6 returned a positive reaction. Of the first series of samples 4 returned a negative and 3 a positive reaction. Of the second series of samples, 4 returned a negative and 2 a positive reaction. Of the third and final series of samples, 5 returned a negative and 1 a positive reaction. Three barrels returned a negative reaction upon every test. One barrel returned a positive reaction throughout. One barrel returned 2 positive and 1 negative reaction, and another barrel returned 2 negative and 1 positive reaction. The examining chemist explains that positive reaction refers to the red color obtained by the application of the test, and alleges that this demonstrates the presence of quinine alkaloid. In addition, the chemist, Seeker, testified that he applied the Hereapathite and Fluorescence tests on a composite sample of 400 grams of mixture, two samples from barrels A and B, and a third sample from barrel A. These last two tests returned a positive reaction. These tests were those applied by the chemist, Seeker, in his experiments prior to syringing quinine alkaloid into the pepper shells. From his previous experience, Chemist Seeker learned that a minimum of 2 mm. of quinine in 200 gms. of pepper sample would invariably return the positive red color reaction. Approximately 30 cc. of quinine solution was injected into each of the 199 bags of pepper shells as previously described, and Seeker estimates that he can detect the presence of 6 per cnet at a minimum of the treated shells in this pepper, and concludes, upon the result of his examination, that this pepper contains from 10 to 28 per cent of quinine treated shells.

The inquiry, therefore, is whether this conclusion is positive and accurate. Cummings, the assistant to Seeker, gives corroborative testimony as to the findings

The entire consignment of 6 barrels is all part of the same grind or mix, and the claimant concedes that if quinine alkaloid was found in 3 barrels, and that this indicates a mixing of pepper and pepper shells, the 6 barrels should be condemned. Learned counsel for the claimant argues that, assuming that the presence of quinine alkaloid in a part of this pepper has been conclusively established, it follows that before such evidence can be accepted as sufficient proof of the addition of quinine alkaloid treated shells to this pepper, the Government must show the absence of any other reasonable possibility of quinine alkaloid finding its way into this pepper. In view of the concession that quinine alkaloid is not one of the properties of pepper and that McCormick & Co. were concededly using pepper shells, I can not agree with counsel that it is incumbent upon the Government to show the absence of any reasonable possibility of quinine alkaloid finding its way into the pepper in any other manner.

The examination made of this pepper by Seeker is attacked as insufficient and inconclusive because it is said that the examination as made does not demonstrate the presence of quinine alkaloid with the certainty required. I can not find that any of the experts called by the defense, and they were many, had ever actually experimented in detecting quinine alkaloid where it has been mixed with pepper shells.

A very general and severe attack is made, however, upon the sufficiency of the tests used by Dr. Seeker, but when the testimony is examined with care it will demonstrate that it resolves itself largely into a matter of opinion; opinion expressed by men learned in the science but men who have not experimented. Drs. Pond and Winton gave no testimony at all upon quinine tests. Dr. Penniman stated that the proof was not sufficiently conclusive and further that "you could not determine the presence of quinine with certainty unless you had pure quinine to test." But he did admit that if the Thalleioquin test were applied and the result obtained as claimed by Dr. Seeker, it would be some evidence of the presence of quinine and that positive reaction from the Hereapathite test would be evidence of the presence of quinine, and that the Fluorescence test would also give some evidence of the presence of quinine, and admitted generally that the three tests were of value in detecting the presence of quinine. He says that the density of the color obtained upon the positive reaction would be indicative of the quantity of quinine present and that the density would have some relation to the quantity. He then describes a method of making this test, which upon comparison with Dr. Seeker's, I find to be precisely what he did. This materially weakens the opinion evidence of Dr. Penniman.

Dr. Deghuee, another expert, on direct examination, expressed grave doubt of the sufficiency of the tests made by Dr. Seeker, but says that if both the Hereapathite and Thalleioquin tests were made, both together would "make out a little stronger case." Dr. Fuller admits that the three tests used by Dr. Seeker, if the observations of Dr. Seeker are correct, would be some evidence of the presence of quinine alkaloid. Dr. Winton's testimony is not at variance with this method of detection. Dr. Winton further testified that a microscopical examination "in itself" is not sufficient except in cases where a foreign ingredient such as almond or cocoanut shells or olive stones are used, and further that "if it were a carefully selected Lampong pepper, which had been cleaned and scoured and some of the natural elements removed, and those were afterwards replaced by pepper shells," he would not expect to find from 10 to 28 per cent of shells on a microscopical examination.

Such quibbling of experts expressing but opinion testimony, in the absence of similar experimentation to that of Dr. Seeker, can not be said to overcome the observations of Dr. Seeker after his study, research, and labor which obtained a positive reaction indicating the presence of the detector which was used by the Government inspectors.

But it is said that the test of the microscope, as applied by Dr. Rusby, submitted by him, negatives the claim made here. Dr. Winston's doubt of the sufficiency of the microscopical examination "in itself" for the purposes of detection creates grave doubt as to its sufficiency. He admits that he can not distinguish the shell of Lampong pepper from Acheen pepper. The latter, Acheen pepper, is a lower-grade pepper than Lampong, and it is hard to conceive of how the difference between the lower grade of Lampong pepper and a mixture of shells and the higher-grade pepper can be determined by the microscope. This witness produced slides in court and gave the court an opportunity to observe his various specimens. I do not think that this testimony overcomes that offered by the Government, which, I believe, shows by a fair preponderance of the evidence that quinine alkaloid was found in the pepper seized. Quinine alkaloid could not accidently have found its way into the 6 barrels seized. Mr. Shoul testified that no chemicals of any kind or foreign drugs could possibly get mixed in the pepper or pepper shells, nor can I infer that by some possibility empty cinchona bark barrels might have been used for packing the 6 barrels of pepper. Each of the barrels seized were lined with a heavy grade of paper and there is no evidence in the record that the barrels were used for cinchona bark at any time. Shoul, who had charge of the grinding department, testified that no pepper shells could have accidently found their way into this lot of pepper, and that if the pepper did contain added shells, they must have been put in deliberately.

R. A. McCormick seems to have charge of the spice department of the claimant, while M. McCormick is in charge of the drug department. Shoul has been the sole head of the spice department. Large quantities of pepper shells were received within the preceding year of the date of the seizure, which are not satisfactorily accounted for by the evidence of the claimant. The original records produced did not show the disposition of the pepper shells and particularly of the quinine alkaloid marked pepper shells received in this lot of 199 bags. The only record produced of a shipment of pepper and pepper shells, properly marked, was to one Goldberg.

This, with the other testimony in the record, leads to the conclusion that the pepper in question was adulterated, and I will accordingly give a decree for the libellant.

Thereafter on March 20, 1917, a formal decree of condemnation and forfeiture was entered in conformity with the foregoing decision, and it was ordered by the court that the product should be sold by the United States marshal after having been labeled, "Ground black pepper containing from 10 per cent to 28 per cent of added pepper shells," and that the costs of the proceedings should be paid by McCormick & Co.

CARL VROOMAN, *Acting Secretary of Agriculture.*